

## 6.0 ENVIRONMENTAL OVERVIEW

### 6.1 Introduction

Coordination with resource agencies was conducted to gather information about existing, potential, and known environmental resources in the vicinity of the project. Future environmental analyses will address environmental considerations in detail. Environmental mitigation will be identified as part of those analyses and documentation. The following sections summarize current information and identify the level of sensitivity or concern for each environmental issue.

### 6.2 Cultural Resources

An inventory consisting of a literature search for known cultural resources was prepared for this study. The review area extended ½ mile along both sides of the existing roadway and potential bypass alignments in the project area, excluding Segment F. Within the review area, 175 cultural resource projects have been conducted, including surveys, testing, and excavation projects.

A variety of cultural resources were identified within the review area, including 181 prehistoric, 116 historic, and 30 with both prehistoric and historic components. Of that total, 27 are listed on the National Register of Historic Places (NRHP), 51 have been recommended as eligible for the NRHP, 108 are potentially eligible, and 115 either have not been evaluated or their eligibility status is unknown based on the available documentation.

The historic properties include early mining camps or towns, mines and smelters, roads, railroads, telephone lines, transmission lines, trash disposal areas, and Civilian Conservation Corps (CCC) sites. The majority of the prehistoric archaeological sites in the review area have been recommended as eligible or potentially eligible for the NRHP under Criterion D, but a substantial number have not been evaluated.

The majority of the properties listed on the NRHP are historic buildings and structures in the Globe/Miami and Superior vicinities that are significant for their architectural and engineering qualities (Criterion C). It is anticipated that many of the historic sites have the potential to increase our knowledge of the early mining, transportation, and communication activities in the area and should be evaluated for their eligibility under Criteria A or B for their association with major

events or individuals, as well as Criterion D (information potential). Mines, roads, buildings, and structures (including transmission line towers) also have the potential for being eligible under Criterion C for their association with particular engineering or architectural styles.

Based upon the archival research, the study area has a high potential for containing additional historic and prehistoric sites. Tribal consultation has been initiated by ADOT and the Tonto National Forest due to potential involvement with traditional cultural properties (TCP). The San Carlos Apache and White Mountain Apache have expressed an interest in the potential project. Additional TCP coordination and detailed ground surveys within the study corridor will be required as part of ADOT's future development of an environmental document and a Design Concept Report

### 6.3 Section 4(f)

Section 4(f) of the U. S. Department of Transportation Act of 1966 states that the Federal Highway Administration “may approve a transportation program or project requiring publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if there is no prudent or feasible alternative to using that land and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use” (49 U.S.C. 303).

Properties that may be protected by Section 4(f) include the historic and prehistoric archaeological sites discussed in the *Cultural Resources* section of this report. The applicability of Section 4(f) to these properties will be determined by ADOT/FHWA following determinations of significance and eligibility by the Tonto National Forest and SHPO.

The Boyce Thompson Southwestern Arboretum, which is listed on the National Register as an archaeological and historic resource district, is a component of the Arizona State Parks System, and is therefore protected by Section 4(f). No wildlife refuges have been identified in the study area.

The proposed project should be evaluated for both direct and proximity impacts to Section 4(f) resources as part of the EA or EIS.

### 6.4 Water Quality

U.S. Army Corps of Engineers jurisdictional delineations of “waters of the United States” will need to be made for a preferred alternative identified during the NEPA process. Named creeks and washes within the vicinity of the project area that would be regarded as jurisdictional waters of the U.S. include Queen Creek, Arnett Creek, Silver King Wash, Needle Creek, Pinto Creek, Bloody Tanks Wash, Pinal Creek, Miami Wash, and McMillen Wash. Unnamed tributaries to these waters, as well as Ramboz Wash and Mineral Creek, would have to be evaluated during the jurisdictional delineation.

Potential impacts to these delineated waters and other intermittent streams will be addressed in the NEPA document. In addition to Section 404 permits, water quality certifications under Section 401 of the Clean Water Act and Arizona Pollutant Discharge Elimination System (NPDES) permits pursuant to Section 402(p) of the Clean Water Act may also be required.

### 6.5 Floodplains

The study area intersects the 100-year floodplain along Queen Creek, Alfred Canyon, Miami Wash, Russell Gulch, along US 60 in the vicinity of Claypool, Bloody Tanks Wash, McMillen Wash, Hayes Gulch, Pinal Creek, and Ramboz Wash. Impacts to the 100-year floodplain will need to be identified in the NEPA document, and appropriate mitigation measures will be developed, as necessary.

The project area is within the 500-year floodplain at Loomis Street, Canyon Avenue and Davis Canyon Street in Miami, and McCormick Wash, Echo Canyon, Graveyard Canyon, Copper Gulch, Blake Street, Ruiz Canyon in Globe.

### 6.6 Air Quality

All projects that increase highway capacity must be assessed for impacts to air quality. Due to mining and smelting activities in the general vicinity, the project area is not in compliance with national

ambient air quality standards (NAAQS) for suspended particulate matter (PM<sub>10</sub>) and sulfur dioxide (SO<sub>2</sub>). The project intersects the Hayden/Miami Non-attainment Area for PM<sub>10</sub> and the Miami Non-attainment Area for SO<sub>2</sub>, therefore, conformity procedures will apply to this project.

An air quality assessment will be needed to determine if this project will have any notable impact to air quality in the area. Some temporary deterioration of air quality may be expected due to the operation of construction equipment and the slower traffic speeds associated with a construction zone. However, this will be a localized condition that will be discontinued when the project is completed. Fugitive dust generated from construction activities must be controlled in accordance with the *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction*, special provisions, and local rules or ordinances.

6.7 Noise Impacts

Since the proposed project involves the construction of new through traffic lanes, the project will need to be evaluated in accordance with ADOT’s Noise Abatement Policy, March 21, 2000. The policy was written to conform to the federal policy and guidelines as stated in Title 23 of the Code of Federal Regulations (CFR) Part 772. Construction noise will be controlled in accordance to the *Arizona Department Of Transportation Standard Specifications for Road and Bridge Construction*.

6.8 Hazardous Materials

The primary hazardous material concerns for the project area involve former and ongoing mining activities throughout the project vicinity. No specific mining related hazardous materials concerns were identified within the project area; however, all alternatives under consideration may intersect unidentified tunnels associated with former mines or mineral explorations. Such tunnels could potentially create a construction hazard or contain contaminated waters. EPA records indicate that the municipal water source for the Town of Superior has had safe drinking water violations due to monitoring procedures and contamination from beryllium, cadmium and copper, which are associated with metal ore deposits.

Existing and former gas stations within Superior, Miami, Claypool, and Globe would generally be avoided by the proposed realignments.

A Phase I Assessment for hazardous materials will be required for the proposed project, and the results will be summarized in the EA or EIS.

If suspected hazardous materials such as stained soils or mine tunnels containing any liquid are encountered during construction, work would cease at that location and the ADOT Engineer would be contacted to arrange for proper assessment, treatment or disposal of those materials.

6.9 Biological Considerations

The U. S. Fish and Wildlife Service lists of endangered, threatened, proposed, and candidate species for Pinal and Gila Counties were reviewed by a qualified biologist. The following species have been known to occur within the counties:

Species	Scientific Name	Status	County
Lesser Long-Nosed Bat	<i>Leptonycteris curasoae yerbabuenae</i>	Endangered	P
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Threatened	G, P
Brown Pelican	<i>Pelecanus occidentalis</i>	Endangered	P
Cactus Ferrunginous Pygmy-Owl	<i>Glaucidium brasilianum cactorum</i>	Endangered	G, P
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Threatened	G, P
Mountain Plover	<i>Charadrius montanus</i>	Proposed Threatened	P
Southwestern Willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	G, P
Yuma Clapper Rail	<i>Rallus longirostris yumanensis</i>	Endangered	P
Chiricahua Leopard Frog	<i>Rana chiricahuensis</i>	Candidate	G
Apache Trout	<i>Oncorhynchus apanche</i>	Threatened	G
Colorado Squawfish	<i>Ptychocheilus lucius</i>	Endangered	G
Desert Pupfish	<i>Cyprinodon macularius</i>	Endangered	P
Gila Chub	<i>Gila intermedia</i>	Candidate	G
Gila Topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	Endangered	G, P
Gila Trout	<i>Oncorhynchus gilae</i>	Endangered	G
Loach Minnow	<i>Tiaroga cobitis</i>	Threatened	G
Razorback Sucker	<i>Xyrauchen texanus</i>	Endangered	P
Spikedace	<i>Meda fulgida</i>	Threatened	P
Acuna Cactus	<i>Echinomastus erectocentrus acunensis</i>	Candidate	P
Arizona Agave	<i>Agave arizonica</i>	Endangered	G
Arizona Hedgehog Cactus	<i>Echinocereus triglochidiatus arizonicus</i>	Endangered	G, P
Arizona Bugbane	<i>Cimicifuga arizonica</i>	Candidate	G
Nichol's Turk's Head Cactus	<i>Echinocactus horzonthalonius</i> var. <i>nicholii</i>	Endangered	P

Additionally, the Arizona Game and Fish Department Heritage database identified the following species as potentially occurring in the vicinity of the study area:

Species	Scientific Name	Status
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	WC, S*
Aravaipa Wood Fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	S
Arizona Alum Root	<i>Heuchera glomerulata</i>	S
Arizona Hedgehog Cactus	<i>Echinocereus triglochidiatus arizonicus</i>	Endangered
Arizona Toad	<i>Bufo microscaphus microscaphus</i>	S
Flannel Bush	<i>Fremontodendron californicum</i>	S, SR
Gila Topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	Endangered
Hohokam Agave	<i>Agave murpheyi</i>	S, HS
Lowland Leopard Frog	<i>Rana yavapaiensis</i>	WC, S
Maricopa Leafnose Snake	<i>Phyllorhynchus browni lucidus</i>	S
Maricopa Tiger Beetle	<i>Cincindela oregona Maricopa</i>	S
Mexican Garter Snake	<i>Thamnophis eques megalops</i>	WC, S
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Threatened
Occult Little Brown Bat	<i>Myotis lucifugus occultus</i>	S
Pocketed Free-Tailed Bat	<i>Nyctinomops femorosaccus</i>	S
San Carlos Buckwheat	<i>Eriogonum capillare</i>	SR
Sonoran Desert Tortoise	<i>Gopherus agassizii</i>	WC
Tonto Basin Agave	<i>Agave delamateri</i>	S, HS
Varied Fishhook Cactus	<i>Mammillaria viridiflora</i>	SR
Western Yellow-Bellied Cuckoo	<i>Coccyzus americanus occidentalis</i>	WC, S

(\*WC = Wildlife of Special Concern in Arizona, S = Forest Service Sensitive, HS = Highly Safeguarded native plant, SR = Salvage Restricted native plant)

No critical habitat is present within the study area. No suitable habitat is present for mountain plover, Yuma clapper rail or brown pelican. Because the project area is outside the known range of Acuna cactus, Arizona bugbane and Nichol's Turk's head cactus, no impacts to these species are anticipated. Impacts to bald eagle are not anticipated, because suitable nesting habitat is not present.

The following issues will need to be addressed in the project’s environmental document:

- The project intersects potential habitat for Arizona hedgehog cactus and Arizona agave. Surveys for these species will be necessary to determine impacts to these species.
- Marginal potential habitat for cactus ferruginous pygmy owl occurs within the project area in the vicinity of Superior and potential habitat for Mexican spotted owl occurs within canyons intersected by the project. Coordination with the

USFWS and Tonto National Forest will be required to determine is surveys are required for these species.

- Lesser long-nosed bat could occur within the project area, so impacts to this species and potential food sources (columnar cacti and agaves, including Arizona, Hohokam and Tonto Basin agaves) will need to be evaluated.
- The proposed project may intersect riparian areas and wetlands along Queen Creek, Arnett Creek, Silver King Wash, Needle Creek, Pinto Creek, Bloody Wash, Pinal Creek, Miami Wash, and McMillen Wash and other ephemeral waterways or springs within the project area. Design concept alternatives will need to be assessed for impacts to Southwestern willow flycatcher, Chiricahua leopard frog, at these locations.
- Coordination with the Tonto National Forest will be required regarding potential impacts to American peregrine falcon, Aravaipa wood fern, Arizona alum root, Arizona toad, flannel bush, Hohokam agave, lowland leopard frog, Maricopa leafnose snake, Maricopa tiger beetle, Mexican garter snake, occult little brown bat, pocketed free-tailed bat, Sonoran desert tortoise, Tonto Basin agave, and Western yellow-bellied cuckoo.
- Special Status fish (Apache trout, Colorado squawfish, desert pupfish, Gila chub, Gila trout, loach minnow, razorback sucker, and spikedace) have historically occurred within the Gila and Salt River systems, but have not been recorded within the project area. Unsuccessful attempts have been made to reintroduce Gila topminnow to Queen Creek in the vicinity of Superior.
- Wildlife crossings occur at the major wash crossings along US 60 and should be maintained.

Protected native plants within the construction limits will be impacted by the project. If project activities do not include salvage of native plants for use during revegetation of the project area, ADOT Roadside Development Section should notify the Arizona Department of Agriculture at least 60 days prior to the start of construction to afford commercial salvagers the opportunity to remove and salvage these plants from state and privately owned lands. The Tonto National Forest should be contacted regarding its requirements as to disposition of any impacted native plants on lands under its jurisdiction.

6.10 Visual Quality

The proposed project will likely result in a notable change in the visual quality of the study area. Therefore, a visual analysis using the Forest Service Visual Management System process will be required as part of

the detailed environmental studies in the next phase of project development. At that time, the viable alternatives will be analyzed to determine the extent of visual impact and identify appropriate mitigation measures to minimize and offset those impacts. Mitigation measures that apply to the recommended alternative will need to address abandoned roadway segments.

6.11 Socio-Economic Considerations

Residential and commercial concentrations occur within Superior, Top-of-the-World, Miami, Claypool, and Globe. Residential and business displacements may occur within Superior and at Top-of-the-World. Realignment alternatives may result in economic impacts to businesses that rely on drive-by traffic, and major and permanent changes in traffic service to commercial development would occur throughout the project area. Development of business route signage is recommended to mitigate this impact. Close coordination with the business community and local government will be required throughout project development.

Superior, Miami, and Claypool have strong concentrations of Hispanic individuals (**Table 6-1**). The slightly higher proportions of people more than 64 years in age, people with disabilities, and people living below the poverty level do not provide evidence of a demonstrable concentration of these groups and are largely related to recent out-migration of employable, younger adults.

Due to the nature of the project, it is not anticipated that there would be a disproportionate adverse impact to the Hispanic population present within the study area. Public involvement will be an important tool in ensuring that socio-economic impacts are avoided by the proposed project.

Temporary negative impacts such as business disruption, access change and parking restrictions may also occur. The proposed project would avoid impacts to neighborhood continuity within Superior, Miami, Claypool, and Globe by removing US 60 as a barrier between residential and local commercial areas. The project may have a major impact to residential development and neighborhood continuity within Top-of-the-World. Positive socioeconomic factors, including construction-related purchases and local spending, will likely result from the project.

Table 6-1 – Demographic Characteristics  
(Source: 2000 Census, except as noted)

	Superior	Top-of-the-World	Miami	Clay-pool	Globe	Pinal County	Gila County	Arizona
Total population	3,254	330	1,936	1,794	7,486	179,727	51,335	5,130,632
Gender:								
Male	49.85%	47.89%	47.94%	48.27%	50.40%	53.31%	49.19%	49.92%
Female	50.15%	52.11%	52.06%	51.73%	49.60%	46.69%	50.81%	50.08%
Race:								
White	72.68%	88.79%	74.74%	78.48%	77.60%	70.42%	77.82%	75.50%
Black	0.46%	1.52%	1.03%	0.95%	1.15%	2.76%	0.38%	3.10%
American Indian	1.63%	3.03%	1.45%	1.56%	3.10%	7.81%	12.92%	4.99%
Asian	0.34%	0.00%	0.10%	0.11%	1.12%	0.60%	0.43%	1.80%
Pacific Islander	0.09%	0.00%	0.00%	0.00%	0.04%	0.08%	0.05%	0.13%
Other	23.05%	4.24%	20.40%	15.83%	14.59%	15.66%	6.59%	11.63%
Two or more races	1.75%	2.42%	2.27%	3.07%	2.40%	2.67%	1.80%	2.86%
Hispanic origin*	69.08%	19.09%	54.44%	41.03%	32.71%	29.86%	16.65%	25.25%
Age:								
0 – 64	80.10%	85.50%	82.90%	84.30%	84.40%	83.80%	80.20%	87.00%
65 +	19.90%	14.50%	17.10%	15.70%	15.60%	16.20%	19.80%	13.00%
Ability (1990 data):								
Mobility limitation	4.46%	N/A	3.33%	3.12%	6.07%	2.89%	5.89%	2.17%
Self-care limitation	2.88%	N/A	3.40%	2.87%	6.85%	1.77%	6.29%	2.31%
Poverty level (1990 data):								
Below	24.00%	N/A	21.12%	23.64%	11.70%	23.61%	18.32%	15.74%
Above	76.00%	N/A	78.88%	76.36%	88.30%	76.39%	81.68%	84.26%

\*Persons of Hispanic Origin may be of any race.

6.12 Environmental Justice

The proposed project will need to be evaluated with respect to environmental justice. Title VI of the Civil Rights Act of 1964 and related statutes assure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations.

The proposed project is anticipated to provide benefits in the form of improved capacity and flow of traffic for all roadway users. Any realignments should be evaluated for potential impacts to known minority (Hispanic) populations in Superior, Miami and Globe to ensure that the project avoids any disproportionately high and adverse effects on these populations.